AMENDMENTS TO THE CLAIMS

Claims 3, 6, 10, 13, 17 and 20 are withdrawn. All pending claims are reproduced below.

1. (Previously Presented) A computer-implemented method for compressing data, the method comprising:

applying a dynamic prediction function to the data by using dynamically predicted coefficient values associated with the data to yield first compressed data;

applying a Golomb coding function to the first compressed data to yield second compressed data; and

storing the compressed data on a computer-readable storage medium.

2. (Original) The method of claim 1 wherein the data is image data.

3. (Withdrawn) The method of claim 1 wherein the data is audio data.

4. (Original) The method of claim 1 further comprising transforming the data from a first domain to a second domain prior to applying the dynamic prediction function.

5. (Original) The method of claim 4 wherein the first domain is an RGB domain and the second domain is a YUV domain.

6. (Withdrawn) The method of claim 4 wherein the first domain is a left and right channel domain and the second domain is a UV domain.

7. (Original) The method of claim 1 wherein the first compressed data has a Laplacian distribution.

8. (Previously Presented) A computer program product for compressing data, the computer program product stored on a computer-readable medium containing executable instructions configured to cause a computer to perform the steps of:

applying a dynamic prediction function to the data by using dynamically predicted coefficient values associated with the data to yield first compressed data;

applying a Golomb coding function to the first compressed data to yield second compressed data; and

storing the compressed data on a computer-readable storage medium.

9. (Original) The computer program product of claim 8 wherein the data is image data

10. (Withdrawn) The computer program product of claim 8 wherein the data is audio data

11. (Original) The computer program product of claim 8 further comprising instructions configured to cause a computer to transform the data from a first domain to a second domain prior to applying the dynamic prediction function.

12. (Original) The computer program product of claim 11 wherein the first domain is an RGB domain and the second domain is a YUV domain.

13. (Withdrawn) The computer program product of claim 11 wherein the first domain is a left and right channel domain and the second domain is a UV domain.

14. (Original) The computer program product of claim 8 wherein the first compressed data has a Laplacian distribution.

15. (Previously Presented) A system for compressing data, the system comprising:

a dynamic predictor for compressing a data stream using dynamically predicted coefficient values associated with the data in order to produce a first compressed streaming having a Laplacian distribution;

an adaptive Golomb engine, communicatively coupled to the dynamic predictor, adapted to receive the first compressed stream and to further compress the first compressed stream to form a second compressed stream; and

a stream output device coupled to the adaptive Golomb engine, adapted to output the compressed stream to a computer-readable storage medium.

16. (Original) The system of claim 15 wherein the data is image data.

17. (Withdrawn) The system of claim 15 wherein the data is audio data.

18. (Original) The system of claim 15 further comprising a pre-processing engine for transforming the data from a first domain to a second domain prior to applying the dynamic prediction function.

19. (Original) The method of claim 17 wherein the first domain is an RGB domain and the second domain is a YUV domain.

20. (Withdrawn) The method of claim 17 wherein the first domain is a left and right channel domain and the second domain is a UV domain.

21. (Previously Presented) A data compression system for compressing data, the system comprising:

receiving means receiving for data to be compressed;

dynamic predicting means, coupled to the receiving means, for applying a dynamic prediction function to the data by using dynamically predicted coefficient values associated with the data to yield first compressed data;

Golomb coding means, communicatively coupled to the dynamic predicting means, for applying a Golomb coding function to the first compressed data to yield second compressed data; and

outputting means, communicatively coupled to the Golomb coding means, for outputting the compressed data to a computer-readable storage medium.

22. (Previously Presented) The method of claim 1, wherein the dynamic prediction function yielding the first compressed data is of the form

$$\Delta_n = x_n - \sum_{i=1}^{M} a_{i,n} x_{n-1},$$

where Δ_n is the first compressed data of the data x_n, M is a predetermined order, and $a_{i,n}$ is a dynamically predicted coefficient value associated with the data x_n.

23. (Previously Presented) The method of claim 22, wherein the dynamic prediction function modifying the dynamically predicted coefficient value associated with the data according to a non-linear feedback is of the form

$$a_{i,n+1} += \delta \cdot sign(\Delta_n) \cdot sign(x_{n-i} - x_n),$$

where δ is a positive number, and $sign(z) := 1, 0, -1$ as z is positive, zero, and negative, respectively.

24. (Previously Presented) The method of claim 1, wherein yielding the first compressed data further comprises yielding the first compressed data with improved speed performance according to the formula

$$\Delta_n = x_n - \left(\left(\sum_{i=1}^{M} a_{i,n} x_{n-1} \right) >> s \right),$$

where >> is a shift-rational arithmetic function and s is an integer.

25. (Previously Presented) The computer program product of claim 8, wherein the dynamic prediction function to yield the first compressed data is of the form

$$\Delta_n = x_n - \sum_{i=1}^{M} a_{i,n} x_{n-1},$$

where Δ_n is the first compressed data of the data x_n, M is a predetermined order, and $a_{i,n}$ is a dynamically predicted coefficient value associated with the data x_n.

26. (Previously Presented) The computer program product of claim 25, wherein the instructions for applying a dynamic prediction function configured to modify the dynamically predicted coefficient value associated with the data according to a non-linear feedback of the form

$$a_{i,n+1} += \delta \cdot sign(\Delta_n) \cdot sign(x_{n-i} - x_n),$$

where δ is a positive number, and $sign(z) := 1, 0, -1$ as z is positive, zero, and negative, respectively.

27. (Previously Presented) The computer program product of claim 8, wherein the instructions for applying a dynamic prediction function further configured to yield the first compressed data with improved speed performance according to the formula

$$\Delta_n = x_n - \left(\left(\sum_{i=1}^{M} a_{i,n} x_{n-1} \right) >> s \right),$$

where >> is a shift-rational arithmetic function and s is an integer.

28. (Previously Presented) The system of claim 15, wherein the dynamic predictor yields the first compressed data according to the formula

$$\Delta_n = x_n - \sum_{i=1}^{M} a_{i,n} x_{n-1},$$

where Δ_n is the first compressed data of the data x_n, M is a predetermined order, and $a_{i,n}$ is a dynamically predicted coefficient value associated with the data x_n.

29. (Previously Presented) The system of claim 28, wherein the dynamic predictor modifies the dynamically predicted coefficient value associated with the data according to a non-linear feedback of the form

$$a_{i,n+1} += \delta \cdot sign(\Delta_n) \cdot sign(x_{n-i} - x_n),$$

where δ is a positive number, and $sign(z) := 1, 0, -1$ as z is positive, zero, and negative, respectively.

30. (Previously Presented) The system of claim 15, wherein the dynamic predictor yields the first compressed data with improved speed performance according to the formula

$$\Delta_n = x_n - \left(\left(\sum_{i=1}^{M} a_{i,n} x_{n-1} \right) >> s \right),$$

where >> is a shift-rational arithmetic function and s is an integer.